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A National Environmental/Energy Workforce Assessment. Region IX

National Field Research Center, Inc, Iowa City, Iowa

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A National Environmental/Energy Workforce Assessment



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16. ABSTRACT

This study is one of 70 volumes assessing the workforce needs (manpower needs) for pollution control and abatement in the United States for the five-year period of 1976 through 1981. Seven fields for pollution control — air, noise, pesticides, potable water, radiation, solid waste, and wastewater — are analyzed, together with energy-related programs currently accentuated by the national effort to solve energy supply problems.

Designed as Phase I of a three-phase program, the complete assessment includes the following volumes: one each for the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands; one for each of the ten EPA regions; a one-volume National Abstract; a volume on National Legislation; a volume on Business and Industry; and a four-volume National Summary. The information was gathered through extensive personal interviews with responsible federal, state, and local officials in every state; with officials of representative private industrial and commercial firms; and with representatives of national industrial and trade organizations.

Phase II will develop a broad national inventory of the entire range of post-secondary and higher education training offered in the pollution control and energy areas cited above, and Phase III will offer demonstrations for curriculum changes or modifications which appear necessary to assure an adequate and properly trained national environmental/energy workforce.

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WORKFORCE ASSESSMENT

for

REGION IX

Conducted by:

NATIONAL FIELD RESEARCH CENTER, INC

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PREFACE

This study is intended to present an overview of existing workforce levels and major activities of the Region IX office of the U.S. Environmental Protection Agency (EPA). Staffing level projections (1977-1982) are developed for areas in which sufficient data were available. Program areas included in this report are: air, noise, pesticides, potable water, radiation, solid waste and wastewater.

This Regional report is designed to supplement the reports for the states within Region IX (one each for Arizona, California, Hawaii, and Nevada).

FOREWORD

This report is a compilation of data obtained during on-site interviews with professionals employed with the Region IX Environmental Protection Agency. Information is organized according to seven pollution control activity areas of EPA: air, noise, pesticides, potable water, radiation, solid waste, and wastewater.

The intent of the report is to present comprehensive information about current workforce levels, workforce projections, reasons for staffing increases or decreases, training programs available to regional employees and sponsored or presented by the Regional Office for state and local personnel, and career potentials. Unfortunately, at this writing there are several areas for which insufficient data are available to the extent that definitive statements or descriptions are not possible and no basis for reasonable projections exists.

Most deficient is the Potable Water program area for which so few data were available that little information of value is conveyed. The areas of air, pesticides, and wastewater lack details as to types of positions included in the current staffing level, positions to be filled in the future, and consequently are deficient as to the discussion of career potential. Training and Certification sections are, overall, scanty especially with regard to regionally conducted or sponsored training for state and local personnel.

National Environmental Energy Workforce Assessment

Phase I

REGION IX

Report

1

REGIONAL PROFILE

Region IX includes four states: Arizona, California, Hawaii, and Nevada. The total population for the four states, as estimated in 1975 was 24,866,000. This is approximately 11.5% of the U.S. population. California, the most populous state in the nation, accounted for 21,185,000. The 389,592 square mile total of these four states is about 13% of the total area of the United States.

Region IX is a jurisdictional area with far more contrasting elements than uniformity. It includes the highest and lowest points of the contiguous states (Mt. Whitney and Death Valley); subtropical islands and the Sierra Nevada, Cascade, and Rocky Mountains, the Mohave, and Painted Deserts and Mt. Waialeale, with an annual average rainfall of 486 inches; the third longest state (California) and the fourth smallest (Hawaii); the most populous (California) and the fifth smallest by population (Nevada). Hawaii is separated from the rest of the states by 2,397 miles of the North Pacific. In addition to the features noted above, the region includes such unique geographic features as Lake Tahoe, the Grand Canyon, Mauna Loa (an active volcano), and Yosemite Valley.

Farm receipts for the region average more than $8.8 billion annually (California accounts for 90%). Value added by manufacture in 1975 exceeded $39.8 billion (California led the nation at $36.7 billion). Mineral production value added averages more than $4.3 billion per annum (approximately 70% is due to California's production).

Tourism brings nearly $10 billion into the region each year, 70% of which is spent in California, even though tourism is the largest segment of the economies of Nevada and Hawaii.

Arizona produces 50% of the nation's copper as well as significant amounts of pumice, silver, gold, and molybdenum. California supplies asbestos, cement, boron, gypsum, and tungsten. Oil accounted for half of California's mineral production value. Nevada is a leading producer of copper, gold, silver, mercury, lithium and barite.

Hawaii leads in production of sugar cane and pineapple. Arizona grows substantial amounts of citrus fruits, grapes, lettuce, melons, and alfalfa; it ranks fifth in cotton. California ranks first in the size of many fruit and vegetable crops and highly in sugar beets, cotton, barley, and rice. Livestock income is derived largely from cattle in California and Nevada; sheep in California, Arizona, and Nevada; and large numbers of chickens and turkeys, particularly in California. California's commercial fish catch was valued at $130 million in 1975 (second only to Alaska).

The huge aerospace industry of California employs one-third of that state's manufacturing workforce. Food products (canned and frozen) and electrical machinery, including components, are major aspects of the manufacturing sector. Arizona has a rapidly growing manufacturing element consisting largely of machinery, aerospace products, and electronic equipment. Nevada manufactures gaming devices, electronic devices, chemicals, and forest products. Hawaii's manufacturing income is heavily dependent upon food processing.

Average per capita income (1975) for the four states is: Arizona, $5,329; California, $6,555; Hawaii, $6,426; Nevada, $6,524. The national average per capita income (1975) is $5,902.

Region IX is experiencing rapid population increases. Environmental problems, too, are increasing. Air pollution from copper smelting and automobile emissions pose immediate health hazards. Water supply is becoming a problem of major proportions as water tables are dropping rapidly in some areas and salination caused by irrigation practices is occurring in other parts of the region; drought is an ever present threat. Oil spills and extensive filling of San Francisco Bay are but two points of concern for the marine environment of the region. Extensive use of pesticides creates a potentially hazardous condition, especially for farm workers.

A strong, well-qualified pollution control and abatement workforce will be essential to overcome problems already well-evidenced and to thwart emerging problems.

Organizational and Operational Structure

ORGANIZATIONAL AND OPERATIONAL STRUCTURE OF EPA REGION IX

Region IX is maintaining its program emphasis of continued integration of state/local agency environmental programs into the agency formal planning and reporting system. Region IX administrators recognize that the most effective and efficient environmental program is that which is closest to the problem and people affected. Efforts have been directed toward development of priorities via discussion and negotiations with state and local program personnel. These efforts have resulted in what Region IX expresses confidence in as "a balanced environmental program plan which reflects the special and unique needs of the states in Region IX".

States in Region IX have continued to express their desire for and commitment to acceptance of delegated authority for federal programs. Major components of the construction grants program have been delegated to California; thus, monies can be shifted to support other goals in high priority program areas, principally the enforcement program.

Goals and strategies being implemented in the various program areas are described briefly below:

1) Air: Significant increase has been effected in resources allocated for the enforcement area of air programs, primarily in new source review (NSR) and SIP emission limitation compliance programs. Top priority is given to the delegation of NSPS, NESHAPS, and the NSR programs to state and/or local agencies. Special emphasis is placed on reducing the number of sources of unknown status to a minimum as well as ensuring

that all sources are in compliance, on a schedule or in a specific enforcement action. Greater effort is being expended working with state and local agencies in identifying and selecting problem sources for compliance inspections. Enforcement actions will be directed at "key" sources with the goal of setting case examples.

2) Noise: The noise program's principal activities are to review EIS's and fulfill the Headquarter's output to develop plans for obtaining state noise legislation.

3) Pesticides: This program is working to implement the state plans for certification of applicators and to ensure acceptable state registration for special local use and acceptable state Experimental Use Permit programs. Commitments for the latter will not be made until the Section 24(c) regulations are promulgated. The Region will also be devoting time to development of a regional strategy for decentralization of the pesticides program.

4) Potable Water: Major emphasis in the tap water program is centered on the development of state capabilities to run the program. Key to the assumption of primacy by the state is the EPA development of a laboratory certification program. A major workload initiated in FY 77 has been the certification of state laboratories and the state laboratory certifying officers for sub-state labs.

The underground injection control program has been in a developmental phase throughout FY 77. Emphasis is placed on enabling state programs to be built upon existing state programs, i.e., the integration of the UIC program with state NPDES programs, and authorities to meet EPA's new UIC regulatory requirements.

5) Radiation: The radiation program's primary objective is to review and comment on nuclear power plant EIS's.

6) Solid Waste: The priority is to resolve federal facility disposal problems and to maintain an oversight role of ongoing hazardous waste disposal sites and practices in Region IX.

7) Wastewater: As noted earlier, the delegation of the Construction Grants program to California during FY 76 has resulted in a significant reduction in resource requirements for the water quality program. However, the resources devoted to treatment facility NEPA compliance under the Interdisciplinary media remain at the target level since this responsibility cannot be delegated. Top priority will again be given to delegations in states other than California.

EPA Region IX employed 348 permanent, full-time people and a fluctuating number of temporary, part-time and student aides in 1976. The following breakdown of personnel by discipline and areas of employment changes from year to year based on regional priorities and less-than-full-time staffing needs.

TABLE I

Staffing Level Figures for U.S. EPA Region IX

Region IX	1976
Attorney	9
Engineer	54
Ecologist/Environmentalist	58
Chemist/Physical Scientist	10
Environmental Protection Specialist	53
Environmental Protection Assistant	8
Administrative Services/Clerical	134
Paralegal Specialist	5
Program Analyst	9
Administrator	8
External Specialist	13
TOTAL	361*

*Includes part-time people

The workforce profile for permanent full-time personnel is:

A.	Regional Adninistration	7
B.	Regional Counsel	6
C.	External Relations	24
D.	Management Division	58
E.	Water Division	84
F.	Enforcement Division	67
G.	Air & Hazardous Materials Division	45
H.	Surveillance & Analysis Division	57
	TOTAL	348

EPA Region IX

POSITIONS RESOURCES BY FUNCTION

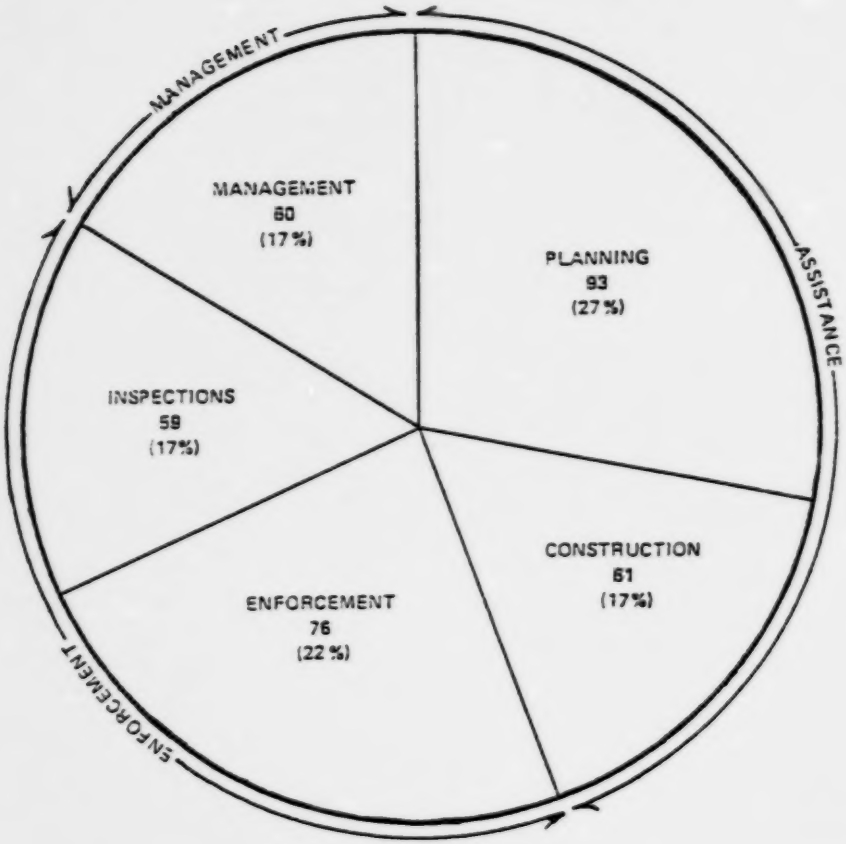


Figure 1

EPA Region IX

POSITION ALLOCATION (by Media), FY-1977

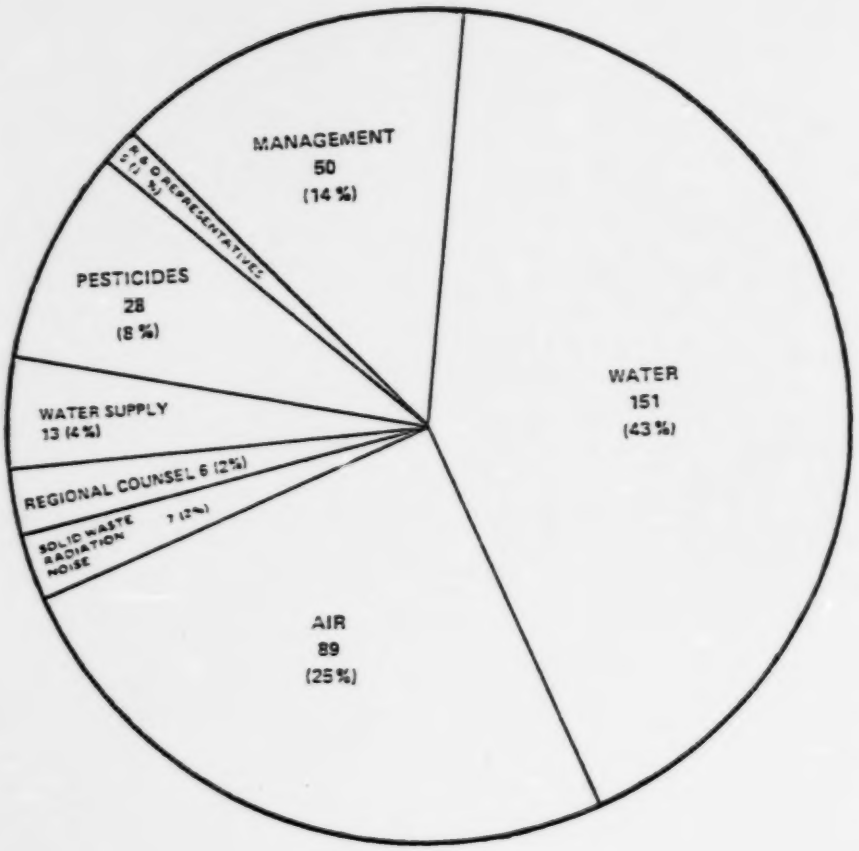
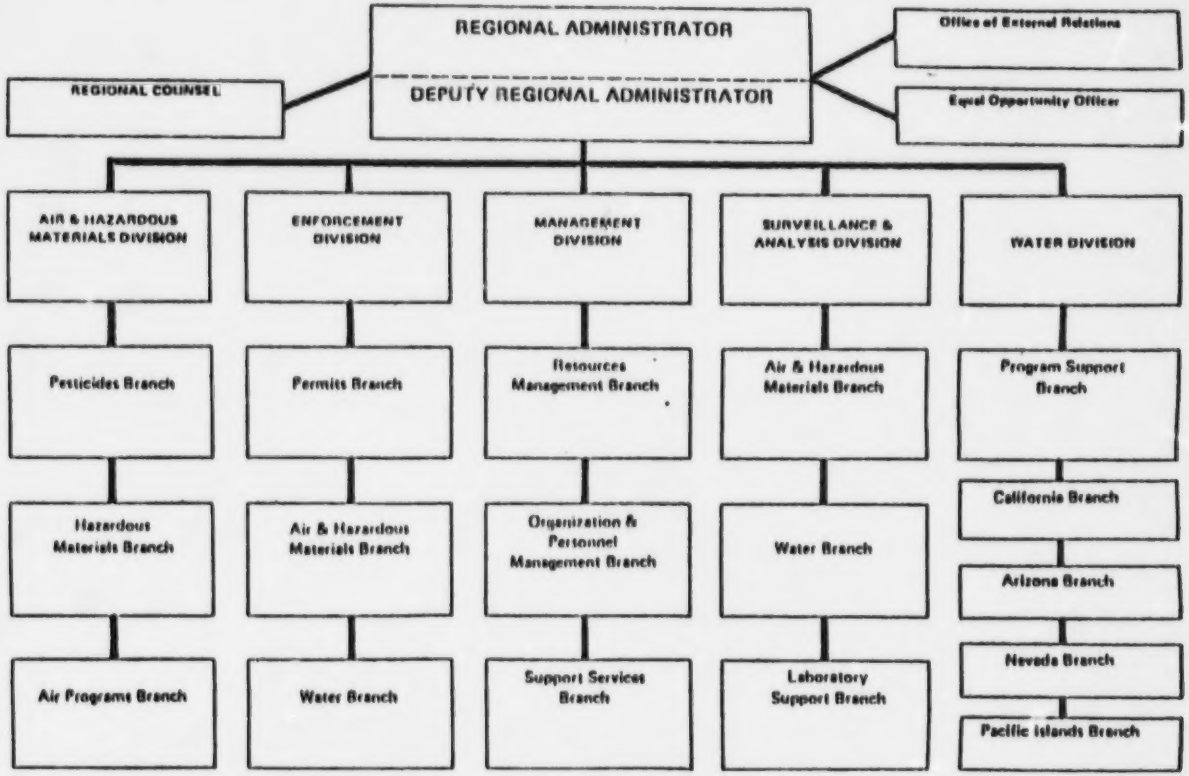


Figure 2

Figure 3

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IX



Regional Pollution Control and Abatement Programs

I. AIR

A. Workforce Profile

Air pollution control activities are the responsibility of the Air and Hazardous Materials Division, Air Programs Branch, and Air and Hazardous Materials Branch of the Enforcement Division. Most activities are predicated on the Clean Air Act of 1970, as amended. Sections of the Act which receive specific emphasis are as follows:

1) 109: National Ambient Air Quality Standards (NAAQS);
2) 110: State Implementation Plans (SIP) for the prevention of deterioration of air quality;
3) 111: New Source Emission Standards;
4) 112: Emission Standards for Hazardous Pollutants.

The Air Programs Branch is responsible for interfacing with the states. SIPs are reviewed and assistance is given for SIP implementation. Air measurement data processing, transportation planning and EIS reviewing are conducted under the direction of this program.

The Surveillance and Analysis Division provides support by means of ambient air monitoring programs based on regional and national needs. Field activities necessitated by ambient air quality problems studies are conducted; technical assistance to federal, state and local agencies is provided.

The Air and Hazardous Materials Branch, Enforcement Division provides policy and technical direction for regional activities in air enforcement.

The table below presents the number of persons working full-time in air pollution control.

TABLE II

Current (1976) Region IX Air Pollution Control Staffing Level

Air Programs Branch

Position	1976
Engineer	13
Ecologist/Environmental Specialist	8
Environmental Protection Specialist	11
Environmental Protection Assistant	1
Other	4
TOTAL	37

Surveillance and Analysis Division

Position	1976
Engineer	4
TOTAL	4

Enforcement Division
Air and Hazardous Materials Branch

TOTAL	40*
GRAND TOTAL	81

*Positions include attorneys, environmental protection specialists and environmental protection assistants. Specific information requested is not yet available.

B. Workforce Projections

Specific workforce projection data for the five-year period through 1981 are not available at this time. As noted above, Region IX does not anticipate a significant change in total number of employees, but is committed to helping state agencies build their workforce levels. The table below presents proposed workforce levels for air pollution control programs through Fiscal Year 1978.

TABLE III

Air Pollution Control

Proposed Workforce Level

			Proposed		
	Actual FY 1976	Planned FY 1977	FY 1978 Zero Growth	FY 1978 Hard Needs	FY 1978 Optimum
Air Programs Branch	37	33	33	35	57
Surveillance and Analysis Division	4	8	8	10	13
Enforcement	40	48	48	54	81
TOTAL	81	89	89	99	151

C. Training and Certification

A listing of training courses proposed and currently available to Region IX employees is appended.

D. Career Potential

Region IX air pollution control staffing profiles will continue to reflect a heavy dependence upon engineers. However, fewer technical

experts will be hired in the future; instead some preference will be shown toward multidisciplinary generalists. Some physical scientists will also be needed. Many of the openings will be replacement. Growth is likely to be between five and ten percent over the next five years.

E. Conclusion

The hard needs based proposed workforce levels represent estimates of the numbers of persons to keep up with increased workloads anticipated due to implementation of new programs and maintenance of current levels of involvement in on-going programs. Technical assistance to the states, review of state programs and verification of data, and delegation of NSPS and NESHAPS authority to the states remain high on the list of essential tasks. Workforce needs for Region IX air pollution control programs will reflect these emphases.

II. NOISE

A. Workforce Profile

The noise pollution control program is housed in the Air and Hazardous Materials Division and is administered through the Hazardous Materials Branch. Currently there are no federal funds available to the state or local agencies for development of noise programs and there are no federal mandates for programs; consequently, programs have been very slow to develop.

The Region IX program exists to stimulate state and local noise control programs and to serve as a clearing-house, specifically for information regarding new products and highway noise. Currently, one acoustical engineer is responsible for the regional program.

B. Workforce Projections

The Regional Office does not project much growth or change in this area during the next five years. One additional acoustical engineer may be hired in 1978 or 1979.

C. Training and Certification

Continuing Education Programming is extremely limited in this area. The region has developed some information programs for local persons. Should programs be developed for regional offices, emphasis will be placed on the responsibilities of lawyers with regard to the product registration activities.

D. Career Potential

Some growth may occur in state and municipal programs for persons with training and experience in acoustical engineering. Presently such growth potential appears to be extremely limited. There is a scarcity of professionals with training appropriate to this field. A substantial growth potential exists in the private manufacturing sector, particularly in design and manufacture of quieter products.

E. Conclusion

The future of noise pollution control activities and staffing needs will be very limited if present conditions persist. If this area is to expand, heightened public awareness and subsequent federal legislation must be effected.

III. PESTICIDES

A. Workforce Profile

In addition to working for implementation of state plans for certification of applicators, the Pesticides Branch of the Air and Hazardous Materials Division is responsible for ensuring acceptable state registration for Special Local Use and acceptable State Experimental Use Permit programs. The Region is considering a strategy for decentralization of the pesticides program.

Priority is given to renewal of existing agreements and negotiation of new cooperative enforcement agreements with the states. In addition to inspections of producer establishments, marketplaces, and imports, an oversight function is to be provided by accompanying state inspectors and reviewing state inspection reports for adequacy in use investigation.

Current (1976) pesticides control program staffing levels are presented in the following table:

TABLE IV

Current (1976) Region IX Pesticides Pollution Control Staffing Level

Air and Hazardous Materials Division, Pesticides Branch

Position	1976
Ecologist/Environmental Specialist	4
Environmental Protection Specialist	3
Environmental Protection Assistant	1
Other	9
TOTAL	17

TABLE IV
(continued)

Pesticides Enforcement Division

Position*	1976
	10
TOTAL	10
GRAND TOTAL	27

*Specific information requested is not yet available.

B. Workforce Projections

Specific data through 1981 are not available. However, at this time, indications are that this program area is quite stable. Hard needs based workforce levels are intended to meet requirements for the following activities:

1) Processing of state plans;
2) Review of implementation in all states;
3) Awarding and monitoring of grants and contracts;
4) Review of State 24(c) actions and state plan development.

Optimum needs are predicted upon the levels considered necessary to accomplish the following:

1) Continue participation in Cooperative Enforcement Agreements;
2) Conduct surveillance, training, management of agreements;
3) Conduct producer establishment, port, marketplace inspections;

4) Take appropriate action against violators;

5) Review of implementation to include training by Cooperative Extension Sercice;

6) Coordinate Integrated Pest Management activities;

7) Provide technical support to Environmental Impact Statement review, research priorities;

8) Coordinate pesticides with Section 208 activities (of P.L. 92-500);

9) Revise regional strategy, develop Action Plan for decentralization;

10) Develop Safety-in-Use Programs;

11) Develop analyses and profiles of data.

The following table presents workforce projections for regional pesticides staffing levels based on hard and optimum needs proposed levels:

TABLE V

Pesticide Pollution Control
Proposed Workforce Level *

			Proposed		
	Actual FY 1976	Planned FY 1977	FY 1978 Zero Growth	FY 1978 Hard Needs	FY 1978 Optimum
Air & Hazardous Materials	17*	16	16	17	21
Enforcement	10	12	12	12	14
TOTAL	27	28	28	29	35

*Specific position information is not available

C. Training and Certification

Training courses available to Region IX employees are appended to this report. The degree of importance assigned to regional training for state personnel is reflected in its placement in the optimum needs catagory, rather than the hard needs.

D. Career Potential

There is little evidence to support an assumption of appreciable career potential in pesticide pollution control at the regional level. Replacement and the relatively few new openings will be filled with persons with training in agronomy, entomology, and related fields, and possibly persons with experience relevant to new program impetus in the area of toxic substances.

E. Conclusion

The pesticide pollution control activities in Region IX are representative of a mature program. Decentralization plans, if developed and acted upon, will reduce the abatement and control activities and allow more emphasis to be placed on enforcement aspects. Should toxic substances responsibilities be added to the pesticides staffing workload, a significant change in number of persons needed over the next five years may occur. Pesticides is one area in which the states have accepted major responsibilities, thus relieving the region of a substantial workload burden. One area of weakness is the solid technical training needed for state personnel.

IV. POTABLE WATER

A. Workforce Profile

The Water Supply Branch of the Water Division is charged with responsibilities subject to the Safe Drinking Water Act. Below is the current water supply staffing level.

TABLE VI

Current (1976) Region IX
Potable Water Staffing Level*

Position	1976
TOTAL	11

*Specific position information is not yet available.

B. Workforce Projections

Proposed staffing levels through Fiscal Year 1978 are indicated below:

TABLE VII

Potable Water
Proposed Workforce Level *

	Actual FY 1976	Planned FY 1977	Proposed FY 1978 Zero Growth	Proposed FY 1978 Hard Needs	Proposed FY 1978 Optimum
Water Division, Water Supply Branch	11	13	13	13	15

*Specific information requested is not yet available.

The data provided were insufficient for the purposes of:

Training and Certification (Section C);

Career Potential (Section D); and

Conclusion (Section E).

V. RADIATION

A. Workforce Profile

The radiation program is administered through the Hazardous Materials Branch of the Air and Hazardous Materials Division of Region IX EPA. One engineer is responsible for program administration and activity. Functions are as follows:

1) Review of Environmental Impact Statements, particularly for nuclear power facilities;

2) Administration of Emergency Response and Preparedness Program;

3) Provision of technical assistance to the state especially in the area of environmental surveillance;

4) Serves as an information clearinghouse for radiation-related materials. The service is available to the public as well as in-house.

B. Workforce Projections

One person will probably be added to the radiation program in 1977. No further increases are anticipated for the radiation program workforce throughout the next five years.

C. Training and Certification

Participation in continuing education programming is voluntary. Approximately ten days of continuing education is received annually. Most of this is acquired through participation in national or regional conferences at which radiation-related material is presented.

D. Career Potential

Career potential is radiation control in EPA Region IX offices is basically nonexistent. Responsibilities for this area reside in other agencies (Nuclear Regulatory Commission and state agencies).

E. Conclusion

No new legislation is envisioned which will alter the situation with regard to radiation activities by Region IX EPA.

VI. SOLID WASTE

A. Workforce Profile

Solid waste program activities are under the aegis of the Hazardous Materials Branch of the Air and Hazardous Materials Division. Functions are as follows:

1) To assist in developing state programs in solid waste disposal, hazardous waste control, and resource recovery;

2) To work with federal agencies regarding their solid waste programs (including the Department of Defense, the U.S. Forest Service, and the Bureau of Land Management);

3) To provide technical assistance to the states in the ongoing operation of their programs;

4) To serve as an informational clearinghouse of related solid waste materials. Service is available to the public as well as in-house;

5) To conduct an inventory of all disposal sites within the region.

Recent federal legislation is already having an impact upon this program area and will continue to do so for some time to come. To date, the 1976 Resource Conservation and Recovery Act (RCRA) has caused an increase in solid waste staffing from four to six person-years. The Regional Office is encouraging the states to accept primacy for RCRA programs. If the states do not elect primacy, the regions will be required to assume responsibility for the programs. This would have a further impact upon the staffing of the branch.

In addition, legislation requires that a minimum of one-fifth of the general appropriation be used to provide technical assistance to the states and local agencies in planning and implementing the programs. A variety of options is available for compliance with this requirement: 1) the region may opt to contract with private environmental engineering firms for the service; 2) the regions may reimburse the state staffs for their time allocated to this activity.

The hazardous waste disposal legislation requires federal/regional involvement from point of waste generation. This includes both transportation and disposal. Previously, solid waste has been limited solely to disposal. Funds are being provided to the states for development of hazardous waste programs. California has one of the more advanced programs in the United States. The region will be using the experience and models developed in California and will be providing technical assistance to the states in development of state legislation and planning. For example, the State of California receives sizable quantities of hazardous materials being shipped from Viet Nam. This represents a major disposal and storage problem. The region will also be providing technical assistance to other federal agencies in Region IX.

More definitive concepts of how the program will be operated will not be available for 6 to 15 months. The current (1976) staffing level is indicated in the following table:

TABLE VIII

Current (1976) Region IX Solid Waste Staffing Level

Position	1976
Engineer	3
Engineering Specialist	1
Technician	1
Other (Clerical)	1
TOTAL	6

B. Workforce Projections

Accurate estimates of increased regional workforce needs for the expanded scope of solid waste pollution control activities (i.e., resource recovery, conservation, and hazardous materials) cannot be made at this time. A major determining factor will be the state's decisions regarding primacy. If states do not accept primacy and the burden for development of extensive sophisticated programs falls upon the regional office, the impact on the staffing level will be of major proportions.

The following table depicts the projected (through 1981) expanded solid waste program staffing level at Region IX.

TABLE IX

Workforce Projections to 1982 (est.)
Soli Waste Pollution Control

Position	1976	1977	1978	1979	1980	1981	%/annum turnover (average)	%/annum growth (average)
Engineer	3	3	4	5	6	6	n/a	n/a
Engineering Specialist	1	1	2	3	3	3	n/a	n/a
Technician	1	1	1	1	1	1	n/a	n/a
Other	1	1	1	2	2	2	n/a	n/a
TOTAL	6	6	8	11	12	12	n/a	n/a

Currently the distribution of staff time is as follows: 2.5 for solid waste, 1.5 for hazardous waste, and 0.5 for resource recovery. By 1981, the distribution will be six for hazardous waste, four for solid waste, and two for resource recovery.

C. Training and Certification

There is a formal orientation program for new employees which emphasizes general information about the program and agency. New employees are frequently sent to conferences and seminars offered through area colleges and universities, local programs, or any available through the regional office. Topics of training are varied. This currently amounts to approximately ten person-days per year. There are approximately three to four continuing education programs available annually through various sources. Participation in the programs is voluntary. The topics may include such areas as environmental law and political science. Participation is equivalent to ten work-days per year.

D. Career Potential

There will definitely be a significant number of openings in solid waste programs over the next five years due to the expanded role and scope of this area. It is not yet known whether the bulk of the increases in staffing will be at the state or federal level. Positions will be filled with engineers, chemists, and persons with skills and experience appropriate to the program emphases when such emphases are determined and established.

E. Conclusion

Solid waste pollution control activities and the expanded aspects of the program will receive increasing attention for the next few years. Staffing levels must be raised to attain a workforce strength commensurate to the fulfillment of program needs.

VII. WASTEWATER

A. Workforce Profile

Wastewater activities are conducted in accordance with the provisions of the Federal Water Pollution Control Act, as amended, with the overall goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters.

Current (1976) staffing levels for wastewater pollution control programs are indicated in the following table:

TABLE X

Current (1976) Region IX
Wastewater Pollution Control Staffing Level

Water Division

Position*	1976
TOTAL	110

Enforcement Division

Position*	1976
TOTAL	37
GRAND TOTAL	147

*Specific position information is not yet available.

B. Workforce Projections

State acceptance or refusal of primacy for National Pollutant Discharge Elimination Systems (NPDES) programs will have major consequences for the wastewater program activities and staffing levels at

the regional office. A 30 percent increase in staffing in this area is not unlikely. Proposed workforce levels through Fiscal Year 1978 are indicated below:

TABLE XI

Wastewater Pollution Control
Proposed Workforce Level

	Actual FY 1976	Planned FY 1977	Proposed FY 1978 Zero Growth	Proposed FY 1978 Hard Needs	Proposed FY 1978 Optimum
Water Division	110	91	91	93	138
Enforcement Division	37	51	51	59	79
TOTAL	147	142	142	152	217

C. Training and Certification

A listing of training courses available to Region IX personnel is appended.

D. Career Potential

There will be a need for sanitary and environmental engineers, geologists and toxicologists, and technicians in wastewater pollution control activities in the future. Planners and contract auditors will be needed as program activities mature.

E. Conclusion

Increased staffing levels will be necessary to carry out the mandated programs delineated in the Federal Water Pollution Control Act. Staff training activities will need express attention.

SUMMARY

EPA Region IX does not anticipate a significant change in the total number of employees. The office is committed to the concept of supporting and building the capabilities of state and local government to manage their own pollution control and abatement activities. Instead of seeking additional positions for the EPA Regional Office, Region IX personnel are helping the state agencies build the workforce which will be necessary for them to assume delegations of responsibilities. The most pressing needs for additional workforce appear to be only at the state and local levels, where most problems exist.

Region IX has an ambitious and effective in-house training program. Additionally, the Region has initiated an innovative work/study program with a "Resource Pool" of up to 16 students, each of whom is given on-the-job training in each of the region's divisions. This program provides the trainees with an opportunity to rotate their full-time student and full-time employee activities. In addition to the financial and on-the-job benefits, the program aids trainees in the selection of academic courses which will have the most practical application to actual job functions. Professional training needs are identified by individual employees and supported financially from regional training funds.

In keeping with this region's philosophy of delegations to state and local government, the state agencies themselves identify training needs and sponsor courses such as those given by Research Triangle Park, North Carolina. EPA provides grant assistance to support state training

activities. Region IX sees a decreasing need for specialized sciences in the federal area. Most of the hard data come from the states. EPA will assume a role of management and direction.

EPA will develop a laboratory certification program and will move toward standardization of monitoring and laboratory procedure. Based on specific criteria, EPA will certify the state labs and the state certifying officers who will be responsible for certifying the other labs.

In the next five to ten years, Region IX will continue to build state and local government's capabilities and will assume more of an administrative role, with the primary technical responsibilities at the state level. This regional office will be contracting for experts on an as-needed basis and will maintain an in-house staff of generalists with broad environmental backgrounds, good analytical capabilities, and the ability to work effectively with state and local governments.

A summary of program direction for the future appears below:

Water. At the present time, EPAs major activities are in the areas of construction grants, 208 areawide planning, and water supply. As the state and local agencies assume delegations of responsibilities, the EPA workforce needs will shift from technical to managerial. Region IX anticipates that, in addition to delegating responsibilities for the facilities plans and plant construction to the state agencies, the EPA wastewater treatment grant processing activities may be eliminated through revenue sharing or by transfer to one of the

developmental agencies (i.e., HUD or EDA). This would be more compatible with EPA's primary mandate as a regulatory agency. The 208 areawide planning activities will peak within the next year, and there will be a shift of personnel from t[illegible] program to other priority areas, most likely to the enforcement program. At the local level, the designated 208 agencies which have made good use of the opportunities that 208 funding offered, will move into the implementation phases and will require additional manpower. In water supply, there is an immediate need for manpower at all levels of government. The most pressing needs are at the state level. Disciplines which will be in demand are sanitarians, engineers, lab technicians, biologists, and water treatment plant operators.

Air. At the federal level, there will be increased emphasis in emission inventory, identification of stationary sources, quality assurance of data, and air quality maintenance planning. Region IX will endeavor to integrate planning activities of the 208 areawide waste treatment and the AQMP. They will also audit state and control district monitoring and enforcement programs and develop standardized methods and criteria in connection with their quality assurance program. EPA will support state and local programs with overall management and guidance as well as funding and personnel assistance. Most of the specialized, technical expertise will be located at the state and local level. EPA will be looking for broad-based environmental engineers,

statisticians, and economists with the ability to interpret data and provide long-range solutions to total environmental problems.

Pesticides. Region IX will move toward delegation of the major pesticides activities to the states. EPA's role will be supportive and enforcement-oriented. They will assist the Department of Agriculture in implementing the state applicator certification and product registration programs. EPA personnel will be expected to possess a high degree of expertise in health effects, biology, and interpersonal/intergovernmental relationships.

Solid Waste. The Region IX solid waste program will be devoted to maintaining its overall management role in hazardous waste disposal sites and land disposal controls. The office will also participate in the Regional 208 areawide planning effort; additionally, there will be development of resource recovery programs. In the future there will be greater demands for environmental economists and chemical engineers with ecologically analytical capabilities.

Radiation and Noise. Limited workforce resources are assigned to these areas. Primary future activities will be in the areas of review of environmental impact statements and technical assistance to the states and other cognizant agencies.

General. Region IX will increase the number of enforcement and surveillance and analysis personnel, as staffing limitations permit, by 10 percent for attorneys; 20 percent for engineers; 20 percent for clerical; and 50 percent for lab support. The toxic substances legislation will create a demand for technical field personnel. Trial lawyers will not be required, inasmuch as court cases are tried by the U.S. Attorney with various EPA personnel as technical advisors. EPA attorneys prepare the legal briefs, and should be proficient in interpersonal/intergovernmental relations in order to negotiate compliance agreements, wherever possible, prior to initiating expensive court proceedings. The permit program will require environmental engineers to determine what is required, and a greater percentage of administrative/clerical personnel to track and maintain permits status and records. In the areas of technical and laboratory support, the region will be experiencing a transition from highly technical personnel to multi-disciplinarians, generalists and some physical scientists. The states will be the primary collectors of technical and monitoring data. EPA Region IX will also rely on the agency's centers of excellence (i.e., Cincinnati and Research Triangle Park) to provide in-depth technical expertise and to develop methodologies. Regional staffing will be with bacteriologists, chemical and sanitary engineers who can identify needed programs, analyze cause and effects and communicate effectively.

Appendix

TRAINING COURSES PROPOSED AND AVAILABLE TO REGION IX EPA PERSONNEL*

Supervisory/Management Training

1. "Management-By-Objectives", four days, EPA HQ Course
2. "Position Management", two days, Civil Service Commission (CSC)
3. "Creating a Winning Environment", three days, CSC, OR "Team Building for Organizational Effectiveness", three days, CSC
4. "The Supervisor and the Union", four days, CSC (subsequent to EPA, Region IX, collective bargaining agreement)

Communications and General Training

1. "Effective Writing--Letters and Reports", four days, CSC
2. "Accelerated Reading", five days, 2 hours/day, CSC
3. "Technical Writing", four days
4. "Time Management", three days, CSC
5. "Public Speaking", 8 hour course to be developed and taught by Region IX staff

In-House Programs

1. Introductory Environmental Studies. 20 hour course over a three month period.
2. Graduate Public Administration Program (through Golden Gate University). Offer Local and Regional Government course in fall semester and Environmental Law course in the spring semester.
3. Undergraduate Credit Program (through City College of San Francisco). Offer The Oceans course in the fall semester and Ecology and Man for the spring semester.
4. Employee Orientation Briefings. Briefings for all new employees every 4 to 6 weeks.

*Information extracted from a document provided by Region IX EPA.

5. Personnel Briefings for Supervisors. Repeat the series of eight one-hour briefings for supervisors given by personnel office staff. Topics include recruitment, classification, awards, adverse actions.

6. EEO Training. Two-hour briefings for all supervisors on the Region IX Affirmative Action Plan for Fiscal Year 1977. In addition, the EEO Officer intends to propose a course in "Cultural Awareness" for supervisors.

7. Safety Training. Repeat the one-hour training classes on Fire Safety, Bomb Threats, and Defensive Driving.

8. "Negotiating Skills". A version of the course currently scheduled for Water Division employees, to be open for employees from all divisions. Designed for those who negotiate or lead meetings with representatives of other governmental bodies and industry. Three days.

9. Water Division courses in "Public Participation" and "Discussion Leader Training", primarily for staff involved in 208 Planning process. "Public Participation" is five days. "Discussion Leader Training" is two days.

10. Another session of "Assertiveness Training", CSC course. Three days.

11. "Orientation to Wastewater Treatment" was indicated as a need on many individual training plans. Five days.

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